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EFFECT OF *DHANYAMLA PARISHEKA* BY CONVENTIONAL METHOD AND CLASSICAL METHOD IN THE MANAGEMENT OF *SANDHIGATAVATA* – A RANDOMIZED COMPARATIVE CLINICAL TRIAL

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ABSTRACT :

Background: Osteoarthritis (OA) is one of the most common and disabling musculoskeletal disorders, which is extremely common in the elderly population, affecting approximately 22% to 39% of the Indian population. The incidence of OA has been increasing trend in the last decades. In this regard, the treatment of OA of the knee requires both pharmacological and non-pharmacological approaches, which have its drawbacks as they are often costly, painful, and associated with potential side effects. Whereas *Ayurveda* offers a holistic and relatively painless treatment, one such therapy is *Dhanyamla Parisheka,* it is indicated in the management of ailments due to *Vata-kapha vitiation.* **Objectives and Trial Design:** The present study is a randomized, open-label parallel-group clinical trial. The objective was to study the effect of *Dhanyamla parisheka* in the management of *sandhigata vata* and determine the difference in the effect of *dhanyamala parisheka* when used by two different *parisheka* methods, the classical (as per classical text) and the convenient conventional method. Total 42 participants diagnosed with *sandhigata vata* were enrolled and randomly allocated into two groups: Group A (Classical method/Standard control) and Group B (Conventional method/trial), with 21 patients in each group. **Methods:** Group A underwent *Parisheka* using the Classical method described in *Ayurvedic* texts, while Group B received treatment using a simplified version for ease of clinical application for 7 days. **Results:** Most of the clinical parameters, except *Sandhisputana* (crepitus), showed statistically significant results noted in both groups, possibly due to the analgesic and anti-inflammatory treatment and absence of *Rasayana* or tissue-regenerating interventions. **Conclusion:** There was no significant difference observed in the effectiveness of the two methodologies; the conventional method demonstrated comparable efficacy. However, *Dhanyamla Parisheka* proved effective in the management of *Sandhigata Vata*.

KEYWORDS: Sandhigatavata, Dhanyamla, Parisheka, osteoarthritis, sandhi.

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1. INTRODUCTION

Rising life expectancy and greater body mass index (BMI) levels have mostly contributed to knee osteoarthritis (OA), which has become prevalent lately. [1] In elderly people, OA is the most prevalent cause of disability. [2] Musculoskeletal diseases were identified by the 2010 Global Burden of Disease Study as being more prevalent, accounting for 6.8% of DALYs globally. [3] Women are more likely than men to have some form of OA, which is thought to affect 10% to 15% of all persons over 60. [4] One of the causes of OA is obesity. Around the world, 130 million people will have OA by 2050, 40 million of whom will be seriously impaired. [5] OA-related expenses cover time off at work, surgery, pharmaceuticals, adaptive equipment, and aids. [6] With a frequency of 22% to 39%, OA is the most prevalent joint illness and the second most common rheumatic issue in India. [7] Currently, a physical examination, X-ray, MRI, and arthroscopy are used to diagnose OA. Treatment options for osteoarthritis (OA) include joint replacement surgery, intra-articular corticosteroid injections, visco supplementation with hyaluronate injections, and, in rare cases, autologous chondrocyte implantation into the injured regions. [8,9]

In Ayurveda, "sandhi *gata vata*" is a *vata vyadhi* (disease of morbid vata) and is correlated to OA. In these patients, symptoms like pain, swelling, and stiffness of joints are due to "*vata*" vitiation affecting day-to-day work. Modern medical treatments often cause side effects, can be painful, and may not lead to complete remission of the disease. In contrast, Ayurvedic management is generally free from side effects, non-painful, and involves procedures like *Snehana* (oleation), *Swedana* (fomentation), *Parisheka* (therapeutic streaming), and *Agnikarma* (cauterization). Since *janu* (knee) is *marma sthana* (vital), the *swedana* advised is *mrudu* (mild). *Parisheka* (therapeutic streaming) *is* a special kind of *swedana* which comes under *drava sweda,* which is beneficial in cases of "*vata*" associated conditions. The word **"*Dhanyamla*"** is derived from the combination of two Sanskrit terms — *"Dhanya"* meaning cereals or grains, and *"Amla"* meaning sour. Comprehensively, it refers to a sour liquid obtained through the fermentation of cereals. It is classified under *Amlavarga, Sandhana Kalpana, or Madya Varga*, and is also referenced in Ayurvedic classics for its use in *Nadi Sweda and Upanaha.* [10] *Dhanyamla* have properties like *Shotha hara*,*Shula hara* and *Ama pachaka.* [11,12] Several studies have explored the management of *Sandhigata Vata* using *Shamana* therapies with classical *Vatahara* drugs, demonstrating moderate to highly significant therapeutic outcomes. [13] The limitation noted in the previous studies was that management of *shola* (pain) and *shotha* (swelling) in the diseased condition left room to work in terms of *Sulahara* and *Sothahara* aspects, nor the difference in the method of *Parisheka* studied. As stated earlier, *Dhanyamlaka* and *Parisheka* were ideal for managing *vata-related* shola and *shotha*. Since the treatment in allopathic science is painful and costly, with many suspected complications and risks. In contrast, Ayurvedic therapies emphasize a holistic and sustainable approach to managing OA. [14] OA being the leading cause of Disability in humans so an efficient and effective line of treatment is needed.

The study's objective was to assess the effectiveness of *Dhanyamla Parisheka* (therapeutic streaming) in the management of *sandhigatavata*

(Osteoarthritis)and compare the efficiency of classical and conventional *Parisheka* methods in the management of *sandhigatavata*.

2. MATERIALS AND METHODS

Trial design: This was an open-label, randomized comparative clinical trial (Equivalence Trial) aimed at evaluating the efficacy of the intervention methods in patients diagnosed with *Sandhigatavata* (Osteoarthritis). The study was conducted at an Ayurveda Hospital, India. 42 patients who met the inclusion criteria and provided written informed consent were enrolled in the study after obtaining ethical clearance from the Institutional Ethics Committee and registration with the Clinical Trial Registry of India (CTRI No: REF/2013/10/005781). Patients presenting with classical symptoms of *Sandhigatavata,* such as *Sandhishoola* (joint pain), *Sandhishotha* (joint effusion), *Sandhigraha* (joint stiffness), *Akunchana Prasarana Vedana* (pain on flexion and extension), *Sparshasahyata* (joint tenderness), and *Sandhisputana* (crepitus) were clinically examined and diagnosed as per Ayurvedic and modern parameters.

Participants were randomly allocated into two groups to receive the planned interventions for 7 days of treatment period. The trial was an open-label equivalence trial; thus, both participants and investigators were aware of the treatment allocation. A comprehensive case record form, patient information sheet, and consent form were maintained for each participant, documenting patient history, assessment parameters, adverse events (if any), and treatment adherence. All procedures were conducted under the monitoring of the Institutional Medical Research Center to ensure ethical standards and protocol adherence.

Trial Setting

The single-centric clinical trial was conducted over one year at Ayurveda Hospital, a tertiary care teaching facility in India. Participants were recruited from both the outpatient (OPD) and inpatient (IPD) departments, and the treatment procedure was carried out at the hospital panchakarma unit, ensuring proper procedural execution and follow-up.

Inclusion criteria-

Subjects between the age group of 40 to 60 years with signs and symptoms of *Sandhigatavata as in (ayush namaste portal)*, irrespective of their religion, sex, or occupation.

Exclusion criteria-

Subjects showing signs and symptoms of Gout, pseudo-gout, and rheumatoid arthritis. Acute joint trauma, complete loss of articular cartilage, History of any systemic illness, pregnant women. Were excluded.

Withdrawal criteria-

The withdrawal criteria included participants who did not follow the study protocol or instructions. Participants could leave the study at any time without affecting their medical care. The principal investigator could stop a participant's involvement due to adverse events, safety concerns, the need for non-permitted treatments, study cancellation, or other administrative reasons.

Drug description and preparation. [15]

Dhanyamla was prepared in a GMP-certified Ayurveda Pharmacy. The raw drug testing was carried out in an AYUSH-approved drug testing laboratory. The Yoga mentioned in the *Sahasrayoga* was selected in this study

***Dhanyamla* Ingredients and quantity**

1. Tandula (Oryza sativa Linn.) - 7.5 kg

2. Pruthuka (*Oryza sativa Linn.)* - 7.5 kg

3. Kulatha (*Macrotyloma uniflorum (Lam.) Verdc.)* - 7.5 kg

4. Laja (*Oryza sativa Linn.)* – 20 kg

5. Kangubeeja (*Setaria italica (L.) P. Beauv.)* - 3.8 kg

6. Kodravam (*Paspalum scrobiculatum Linn.)*- 3.8 kg

7. Nagara (*Zingiber officinale Roscoe.)* - 1.5 kg

8. Dipyaka (*Trachyspermum roxburghianum (DC.) Craib.)* -1.5 kg

9. Small pieces of *Nimbuka* (*Citrus × acida Roxb. ex-DC.)*- 3 kg

Trial Drug Preparation

The preparation of *Dhanyamla* began with a pre-preparation phase in which all the raw drugs (1–8) were coarsely powdered, and *Nimbuka* small pieces were prepared. These ingredients were then soaked in water and kept overnight. The next process was heating, and a double boiler system was used, consisting of a 200-liter inner vessel and a 300-liter outer vessel. In the inner vessel, 150 liters of water were brought to a boil. Then the soaked ingredients were added to this boiling water, covered with a lid, and heated gently and continuously over a moderate flame for eight days. During this period, the outer vessel was maintained with water at a temperature of 70°C, ensuring the inner mixture stayed at approximately 60°C.On the 9th day, the mixture was cooled and transferred to a wooden container. It was then allowed to ferment for seven days. After this period, the *Dhanyamla* was considered ready for therapeutic use.

Table 1: Rasapanchaka of raw drug and *dhanyamla*

Sl. No.	Parameters	Tandula Fruit	Kulatha (seed)	Kangu Beeja (seed)	Kodrava (seed)	Nagara (rhizome)	Dipyaka (fruit)	Nimbuka(liquid)	Dhanyamla (liquid)
1	Rasa	Madhura and Kashaya	Kashaya	Kashaya and Madhura	Madhura-Kashaya	Katu	Tikta Rasa	Amla	Amla
2	Guna	Guru	Laghu, Vidahi and Sara	Guru and Ruksha	Laghu and Ruksha	Ruksha, Guru & Teekshna	Laghu, Ruksha	Laghu	Leghu, Snigdha, Teekshna, Sheeta sparsa
3	Virya	Sheeta	Ushna	Ushna	Sheeta	Ushna	Ushna	Ushna	Ushna
4	Vipaka	Madhura	Katu	Katu	Katu	Madhura	Katu	Amla	Amla

Intervention and Comparator

Participants in Group A (classical method / standard control) and Group B (conventional method/ Trial) were administered *Dhanyamla Parisheka* therapy using different techniques. Before the procedure, all subjects were instructed to void natural urges. The *dhara* table used for the procedure was inclined by six inches at the head end to facilitate fluid flow. Participants were positioned supine or seated comfortably, with clothing adjusted to expose the

knee joints. A *Sthanika Abhyanga* (localized oil massage) using *Murchita Tila Taila* was administered to the affected joints.

In both groups, *Dhanyamla* was heated indirectly using a water bath and transferred into a *Parisheka Yantra*. The temperature of the liquid was maintained and monitored continuously using a digital multimeter. The medicated liquid was poured in a continuous stream over the knee joints for 30 minutes daily. The same *Dhanyamla* was used for three consecutive days, and the volume lost each day was replenished with fresh liquid.

Table 2: Group-specific interventions were as follows

Group	Treatment plan	Timing/ Duration
A (classical/ standard control), [11 & 13]	*Dhanyamla Parisheka* classical method using *varshalika and vastravacchanna*. (therapeutic streaming using varshalika(earthenware) and knee covered with cloth)	30 mins/ 7 days
B (conventional/trial)	*Dhanyamla Parisheka* conventional method using a plastic jar and not using *vastravacchanna*.(therapeutic streaming using a plastic jar and the knee without being covered with cloth)	30 mins/ 7 days
Patients of both groups were advised to rest for 10 minutes after the procedure and wash the *janu pradesha(knee) by ushna jala*(warm water) *as pashchyat karma*(post-operative procedure).		

In both groups digital multimeter was used to check the temperature tolerance and temperature retention. Temperature was recorded at different levels of 30 sec, 45 sec, and 60 sec.

Outcomes

Primary outcomes were reduction in Verbal Rating Scale (VRS) for *sandhishoola,*

Secondary outcomes were improvement in Likert scale scores for *sandhi shotha (*Joint effusion), *sandhigraha* (Joint stiffness), *akunchana prasarana Vedana* (Pain on flexion and extension), *sparshasahyata (*Joint tenderness), *sandhisputana* (Crepitus). All outcomes were measured at baseline and post-intervention using validated scales.

Sample size calculation. [16]

$$\frac{2*sd^2*(Za+Zb)^2}{d^2}$$

Desired power = 80%, Alpha = 5%, d=3.5−2.0=1.5, Pooled SD = 1.5,

n= 15.68,

n= 20 with 10% dropouts

Allocation and Blinding Procedures: patients diagnosed with *sandhigata vata* aged between 40-60 years were included in the study after informed consent. A structured Likert scale was used to diagnose the symptoms, which helped minimize the potential for observer bias. The institutional medical research center generated the randomization sequence using 42 patients aged between 40 and 60 years, diagnosed with *sandhigata vata* (OA), who were included in the study. All symptoms were assessed using a structured Likert scale. The block randomization with a block size of 20 was generated by personnel from the Institutional Medical Research Center (IMRC) using online software

(https://www.random.org), ensuring equal allocation in both groups. The IMRC prepared randomization using sequentially numbered, opaque, sealed envelopes (SNOSE). Under the supervision of IMRC, participants were enrolled, and group assignments were revealed only upon opening the envelopes in sequence. Both participants and the investigator were aware of the treatment allocation because no blinding was involved, as it was an open-label study

Statistical Methods: SPSS (Version 25) and the Excel tool were used for statistical analysis. The summary figures, such as means, standard deviations (SD), and percentages, were used to describe the demographic details and baseline measurements (age, sex, diet, prakriti, and temperature tolerance). Student t test was applied to assess the change in symptoms of *sandhigata vata* within group (Paired student t test) and between groups (independent student t test), and p-values and Cohen's d (effect size) were calculated to check if the improvements were statistically significant. The level of significance was set at a 95 % confidence level and p-value of < 0.05, while p-values of < 0.01 and < 0.001 were considered as high and very high significance, respectively. The improvement in symptoms before and after treatment was assessed using a percentage. Missing data were handled by including only the subjects who completed the study in the final analysis.

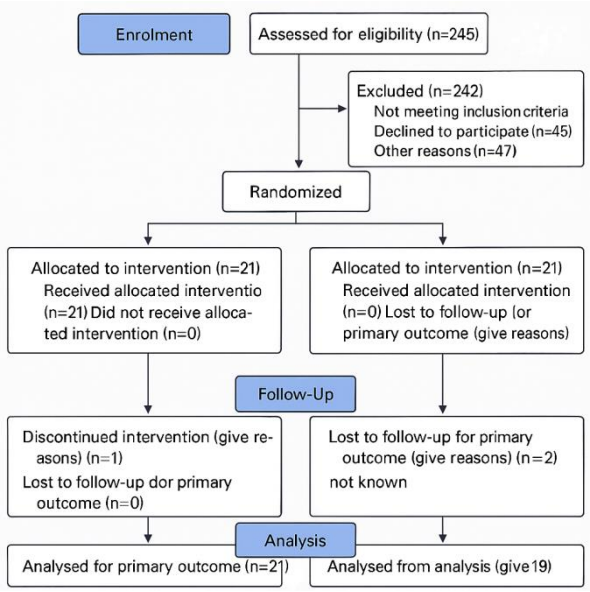


Fig 1: CONSORT 2025: Flow Chart

3. RESULTS

In the present study, raw drug analysis was carried out at an AYUSH-approved Drug Testing Laboratory. The drug was clinically administered to 42 subjects diagnosed with *Sandhigatavata.*

Table 3: Drug analysis report

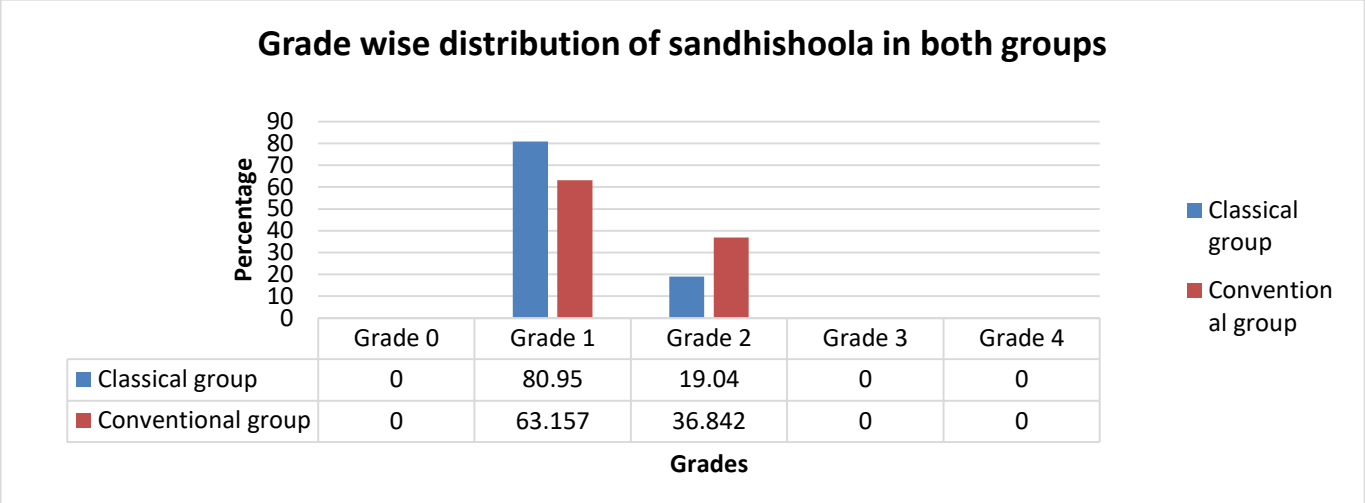
Parameters	**Tandula Fruit**	Kulatha (seed)	Kangu Beeja (seed)	Kodrava (seed)	Nagara (rhizome)	Dipyaka (fruit)	Nimbuka (liquid)	Dhanyamla (liquid)
Physio-chemical								
Total Ash (% w/w)	1.85%	3.33%	4.58%	1.04%	3.13%	3.07%	9.20%	9.50%
Acid Insoluble Ash (% w/w)	0.89%	0.96%	0.79%	0.64%	0.91%	0.92%	1.01%	1.01%
Water Soluble Extractive (%w/w)	11.44%	18.43%	12.48%	16.40%	14.60%	25.15%	2.7	3.29
Alcohol Soluble Extractive	9.99%	21.04%	12.80%	14.40%	16.44%	14.45%	-	-

(%w/w)								
pH	-	-	-	-	-	-	-	3.71
Organic elements								
Reducing sugars	-	-	-	-	+	+	+	+
Monosaccharides	-	-	-	-	-	-	-	-
Pentose sugar	-	+	-	+	-	-	-	-
Hexose sugars	-	-	-	-	+	-	-	-
Non reducing sugar	+	+	+	+	+	-	-	-
Proteins	+	+	+	-	+	-	-	-
Aminoacids	-	-	-	-	+	+	-	-
Steroid	-	-	-	-	+	+	-	-
Cardiac glycosides	-	-	-	+	+	+	-	-
Anthroquinone glycosides	-	-	-	-	+	+	-	-
Flavonoids	-	-	-	-	-	+	-	-
Alkaloids	-	+	+	-	+	+	+	+
Tannins	-	+	+	-	+	+	-	-
Inorganic elements								
Carbonate	-	-	-	-	-	-	-	-
Calcium	-	-	+	-	-	+	-	-
Potassium	+	+	-	-	-	+	-	-
Iron	+	-	-	-	-	-	-	-
Sulphate	+	+	+	+	-	+	+	+
Chloride	-	-	-	-	-	-	-	-
Nitrate	-	+	-	-	-	+	-	-
Phosphate	+	+	+	-	-	+	-	-

Table 4: Descriptive statistics

Variable			
Age (Yrs)	40-50	51-60	
	14	26	
Sex	Male	Female	
	14	26	
Diet	Veg	Mixed	
	18	22	
Prakruti	Vata pittaja	Vata kapha	pittaja-kapha
	15	22	3

Temperature Tolerance	Vata pittaja	Vata kapha	pittaja-kapha
	upto 39-41 degree C	upto 42- 44 degree C	upto40- 42 degree C



*Grade 0- No pain. Grade 1- Mild, Grade 2- moderate, Grade 3- severe, Grade 4 – very severe

Graph 1: **Distribution of *sandhishoola* across both the groups**

Table 5: Statistical analysis of Symptoms Before and after the treatment within Group A & B through the Paired Student T test

Symptoms	Group A p-values						Group B p-values					
	Mean + Stdev BT	Mean + Stdev AT	Mean BT-AT	% of Improvement	p value	Cohen's d	Mean + Stdev BT	Mean + Stdev AT	Mean BT-AT	% of Improvement	p value	Cohen's d
Sandhi shoola (Joint pain)	2.62 ± 0.59	1.2 ± 0.4	1.42	54.19	< 0.0001***	0.94	3.1 ± 0.6	1.3 ± 0.49	1.74	55.94	< 0.0001***	0.55
sandhi shotha (Joint effusion)	0.66 ± 0.65	0.047 ± 0.21	0.62	92.85	0.03*	2.41	0.52 ± 0.77	0.10 ± 0.31	0.42	80.03	0.007**	3
Sandhi graha (Joint stiffness)	0.38 ± 0.74	0.09 ± 0.30	0.29	75.06	0.03*	0.39	1.1 ± 0.87	0.26 ± 0.45	0.84	85.79	< 0.0001***	0.97
akunchana prasarana Vedana (Pain on flexion and extension)	1.19± 0.40	0.28 ± 0.46	0.73	61.1	< 0.0001***	0.64	1.5± 0.69	0.47 ± 0.61	1.05	86.23	< 0.0001***	0.48

*Sparshasahyata (*Joint tenderness)	0.42 ± 0.59	0.04 ± 0.21	0.38	89.01	0.002 **	2.28	0.52± 0.77	0.15 ± 0.37	0.37	90.00	0.008**	1.49
*Sandhi sputana (*Crepitus)	0.9048 ± 0.3008	0.90 ± 0.30	0.00	0	> 0.999	00	0.89 ± 0.31	0.89 ± 0.31	0.00	0.00	> 0.9999	0

*p<0.05 Significant. **p<0.01highly significant. ***p<0.001, very highly significant.

Table 6: Statistical analysis of Symptoms Before and after the treatment between Group A & B through the Independent Student t-test

Symptoms	Mean + Stdev		% of improvement		p Value	Cohen d
	Group A	Group B	Group A	Group B		
*Sandhi shoola (*Joint pain)	1.2 ± 0.4	1.3 ± 0.49	54.19	55.94	0.05	-0.22
*sandhi shotha (*Joint effusion)	0.04 ± 0.21	0.10 ± 0.31	92.85	83.03	0.30	-0.23
*Sandhi graha (*Joint stiffness)	0.09 ± 0.30	0.26 ± 0.45	75.06	85.79	0.002**	0.44
*akunchana prasarana vedana (*Pain on flexion and extension)	0.28 ± 0.46	0.47± 0.61	61.1	86.23	0.03*	-0.35
*Sparshasahyata (*Joint tenderness)	0.04 ± 0.21	0.15 ± 0.37	89.01	90	0.62	-0.37
*Sandhi sputana (*Crepitus)	0.90 ± 0.30	0.89 ± 0.31	0	0	> 0.99	0.03

Table 7: Day-wise improvement of symptoms across both groups.

Symptoms	Day1	Day2	Day3	Day4	Day5	Day6
*Sandhi shoola (*Joint pain)		Group A	Group B			
*sandhi shotha (*Joint effusion)			Both Group A And B			
*Sandhi graha (*Joint stiffness)			Group A	Group B		
*akunchana prasarana vedana (*Pain on flexion and extension)		Both Group A And B				
*Sparshasahyata (*Joint tenderness)		Both Group A And B				

Table 8: Distribution of patients as per prakriti concerning temperature tolerance.

Prakruti	Patients (n)	Temperature tolerance
Vata-pitta	15	39-41 ^{0}c
Pitta-kapha	3	40-42 ^{0}c
Vata-kapha	22	42-44 ^{0}c

4. DISCUSSION

The present study focuses on *Parisheka* with *Dhanyamla* as a treatment modality in the

management of *sandhigata vata*. *Panchakarma* procedures act based on Dravya, guna, and karma. [12] *Dhanyamla* showed significant therapeutic efficacy in the management of all the symptoms of *sandhigata* vata, which may be due to the synergistic action of its ingredients, as it contains favourable bioactive phytochemical constituents (Tables 1 & 3). The ingredients *Kulatha, Nagara, and Dipyaka* are mostly *katu and Kashaya rasa*, which are *Vata and Kapha doshas shamaka,* and these two *doshas* play an important role in the *samprapti of sandhigata vata. Dhanyamla also contains ushne veerya dravyas like Kulatha, Dipyaka, Nagara, and Nimbuka,* which are *Amapachana* (digesting metabolic toxins), *Srotoshodhana* (clearing bodily channels), and alleviating stiffness and pain associated with Vata vitiation. Few ingredients have *katu vipaka* perform the *Deepana-Pachana* (digestive stimulation) and *Rukshana* (drying) actions, reducing joint swelling and effusion.

As seen in Table 3, *Dhanyamla* ingredients are rich in alkaloids, cardiac glycosides, tannins, and flavonoids—particularly in *Nagara and Dipyaka* act as anti-inflammatory, analgesic, and antioxidant, thus reducing the pain, tenderness, and also inflammation. The synovial fluid regulation, nerve conduction, and bone/joint tissue support is done through the mineral components like potassium, sulphate, and calcium, found in several ingredients of *Dhyanyamla* (Table 3). It's also noted that there is efficient extraction and bioavailability of active constituents of *Kulatha and Kodrava* in both water & alcohol. The pH of *Dhanyamla,* which is 3.71 (Table 3), helps it penetrate deep into the skin, enabling it to reach till sandhi. The modality by which the *dhanyamala* is used Is *parisheka*, which is the type of *drava sweda*. Ayurvedic pharmacodynamics and biochemical constituents together explain the efficacy of *Dhanyamla* in managing the symptoms of *sandhigata vata*. Also, assessing the properties of *Dhanyamla* of *Shula hara, Shota hara, Ama Pachaka,* and *Ushna teekshna.* Thus, the combination of *Ayurvedic* pharmacodynamics modern biochemical constituents, and *panchakarma* modality appears to have offered a multifaceted therapeutic response in managing symptoms of *Sandhigata vata* a result, the combined effect *of Karma, Dravya*, and *Guna* of *Dhanyamla Parisheka* was seen in effective management of the condition. [12,17]

The *panchakarma* modality, using which the *dhanaymala* is administered, the *parisheka,* which is one of the types of *Swedana* itself, is widely used in Vata and Vata-kapha disorders and acts by causing vasodilation and improved general Circulation. Out of the four *Tiryak Dhamanis*, each divide gradually a hundred thousand times and thus becomes innumerable. These cover the body like a network, and their openings are attached to *Romakoopa.* Through them only *Veeryas of Abhyanga, Parisheka, Avagaha, and Alepa* enter the body after undergoing *Paka with Bhrajaka Pitta*. [11] *Sneha* used in *Avagaha* produces *Shareera Bala* by saturating through *Siramukha, Romakoopa, and Dhamani.* [18] *Lepa-like Bahirparimarjana* treatments yield results by entering to *Romakoopa,* thereby circulating through *Svedavaha Srotas.* [19] *Bhrajaka Pitta* will

do *Pachana* of drugs used in *Abhyanga, Parisheka, and Lepa.*[20] Application of medicaments, heat, and massage helps in eliminating the number of noxious elements through the skin. According to *sushruta,* [11]' *Vagbhatta,* [21] and *charaka,* [22] and the improvement in patients with *sandhivata* is due to the application of heat in the form of *swedana* promotes local circulation and metabolic activities and also opens the pores of the skin to permit transfer of medicaments and nutrients towards the needed sites and the elimination of vitiated *Doshas* and *Malas* through the skin. *Parisheka* dilates the blood vessels of the muscles surrounding the joints. This process increases the flow of oxygen and nutrients to the muscles, helping to heal the damaged tissue. *Parisheka* facilitates stretching the soft tissues around the joints, including muscles and connective tissue. Consequently, with *Parisheka*, there will be a decrease in stiffness, with an increase in flexibility and overall feeling of comfort. Thus, with the above references, it can be said that drugs used in the *Janu Parisheka* procedure get absorbed and produce action according to the properties of the medicine.

In the present study, we adopted both the Group A (Classical method/ standard control) and the Group B (Conventional method/ trial) of *Parisheka***.** The demographic distribution (Table 4) showed that a total of 26(65%) patients belong to the 51-60 age group. Out of 40 subjects, 26 (65%) were females, and males were only 14 (35%). 55% of subjects followed a mixed diet, and 45 % had a vegetarian diet. Among 40 patients, the maximum number of patients, i.e., 22 (55%), belonged to *Vata-kapha Prakriti,* and 15 patients (37.5%) belonged to *Vata-pitta Prakriti*.

Improvement in symptoms of both groups after treatment, the groups showed significant improvement in all the symptoms because *Dhanyamla Parisheka* has given significant relief in managing the condition by *vatahara, kapha hara, Shotha hara, and Ama pachana and shula hara* properties. There was no improvement in *sandhisputana* because it is caused due to *Dhatu kshaya*. The present study has not shown any changes in managing the condition may be because the study period was less and no *dhatu vruddikara chikitsa* was given (Tables 5 & 6)**.** There is a significant difference in *sandhi shotha*, *Sandhigraha and Akunchana prasarana janya vedana* in groups A and B, which may be because of uniform pressure and heat distribution by using *varshanika*. In contrast, in the case of the Plastic jar, pressure variation was dependent on the performer. Secondly, using *Vastravachhanna* (covering the part with cloth) gave heat tolerance, as it does not allow direct contact with the skin. Still, other parameters have no significant difference (Table 6). There was more temperature tolerance in subjects involving *Kapha-associated prakruti,* and there was no significant difference in retention of temperature at all the intervals in both groups. Temperature loss was the same in both treatment modalities at the same intervals (Table 8). Group A (Classical method/ Standard control) was suitable as it gave a smoothing effect compared to Group B (conventional method/ Trial). In both Groups (A and B), highly significant relief ($P< 0.001$) was found in *sandhishula* because s*hula*

is due to *vata prakopa* and *swedana* with *danyaamlaka* alleviated the *sthanika prakupita vata* by its *Shula hara* and *Vata shamaka* properties. The study has shown significant improvement in the management of *Shotha* due to *sthanik ama* and *dhanyaalaka* is said to be best *ama pachaka* and *Shotha hara* and *Ama pachana*. In both Groups, improvement in *sandhigraha , akunchana prasarana vedana and sparsha ashaishnuta* was due to *vata–kapha hara* and *amapachaka* properties of *dhanyaml*a and *Parisheka* (Table 5 & 6). The reason for no relief for *sandhishuptana* seen is due to the non-inclusion of *dhatu vriddhikara chikitsa*.

Day-wise improvement is given in Table 7, which shows that Group A (classical method/ standard control) improvement was observed in *Sandhishoola* (joint pain), *Akunchana Prasarana Vedana* (pain on flexion and extension), and *Sparshasahyata* (joint tenderness) by the second day of treatment. The remaining two symptoms—*Sandhishotha* (joint effusion) and *Sandhigraha* (joint stiffness)—improved by the third day in all 19 subjects. Group B (conventional method) showed improvement in all symptoms in all 21 subjects by the fourth day. Overall, results were early among patients in Group A, possibly due to the sustained temperature maintained by *Vastravacchanna* during *Parisheka* (covering the limb with cloth during pouring).

Based on *Prakriti*, a difference in temperature tolerance of up to 2 degrees was noted, with *Vata Kapha* having the highest tolerance at 42-44^0 °C. There was no significant difference in temperature retention at all intervals in both groups. Temperature loss was the same in both treatment modalities at the same intervals. *Prakruti-wise* distribution of Patients' temperature tolerance showed a minimum in *Vata pitta Prakriti* persons and highest in the case of *Vata-kapha*, so it's understood that *Prakruti* determines the tolerance to heat (Table 8). The conventional method had other benefits, like being comfortable and easy to perform.

Limitations: This study has a few limitations. Being conducted at a single center with a relatively small sample size, the findings may not be widely generalizable. The short duration of follow-up makes it difficult to assess long-term outcomes or sustained effects of the treatment. Moreover, the absence of blinding may introduce bias and limit the strength of conclusions regarding the effectiveness of the intervention.

5. CONCLUSION

There was no significant difference observed in the effectiveness of the two methodologies; both the Classical method and the conventional method were significantly effective in managing the symptoms of *Sanghigata Vata*. Group A provided quicker relief by the 3rd day, while Group B demonstrated more significant overall improvement in functional symptoms. Neither group showed improvement in *Sandhisputana* (crepitus). Both methods demonstrated symptom-specific advantages, suggesting that the choice of method should be based on the predominant symptoms. Regardless of the approach, *Dhanyamla Parisheka* proved effective in the management of *Sandhigata Vata*.

Future scope: Future studies should involve larger, multi-center trials with objective tools like imaging and biomarkers to validate findings and explore pharmacological mechanisms. Also, this study further gives scope to research other conventional methods over classical methods to reduce the treatment cost.

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